

Application Serial No. 10/642,936
Reply to office action of April 5, 2005

PATENT
Docket: CU-3332

REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-5 are pending in the present application before this amendment. By the present amendment, claim 1 has been amended and claim 9 has been added. No new matter has been added.

In the office action, claim 1 stands objected to for containing informality. Appropriate correction has been made, and withdrawal of the objection is respectfully requested.

In the office action, claims 1-2 and 4 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,904,546 (Wood) in view of U.S. Patent No. 4,729,911 (Coleman). The "et al." suffix, which may appear after a reference name, is omitted in this paper.

Although the cited references merely mention the use of isotropic and/or anisotropic etching techniques for semiconductor dicing processes, the concepts taught or suggested by the cited references basically differ from the presently claimed invention.

The presently claimed invention prevents, inter alia, damage at the edges of diced semiconductor elements. The presently claimed invention is characterized by the order of the steps of the claimed methods. Specifically, a semiconductor wafer is **first** isotropically etched to form a --groove having a bowl-shaped cross-section—. **Then**, the --bottom surface of the groove— is anisotropically etched to dice the semiconductor wafer into individual semiconductor elements. In this manner, it is possible to obtain a semiconductor element having rounded edges.

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On the other hand, if the anisotropic etching is first performed and then the bottom surface of the resulting groove is isotropically etched, the width of the resulting groove becomes greater. In such a case, the width of cutting portion accordingly becomes greater. Therefore, it is hard to form as many semiconductor elements from one semiconductor wafer in comparison to the claimed methods.

The cited references rather have different features and advantages which do not teach or suggest the presently claimed invention. In the cited references, there is no disclosure and/or suggestion on techniques of using both of isotropic and anisotropic etching processes as well as the order of these etching processes performed.

Thus, it is concluded that the present invention cannot be obviously contrived by those skilled in the art with the reference cited in the office action.

In the office action, claims 3 and 5 stand rejected under 35 U.S.C. § 103(a) as being obvious over Wood in view of Coleman, and further in view of U.S. Patent Application Publication No. 2002/0145827 (Bunch).

It is respectfully submitted that claims 3 and 5 are allowable at least since they depend from one of the independent claims that are now considered to be in condition for allowance for the reasons set forth above. Indication of allowable of subject matter is respectfully requested.

As to claim 9, the applicant respectfully reasserts the remarks above with respect to claim 1 and respectfully submits that, for the same reasons asserted above, this claim is considered to be in condition for allowance.

For the reasons set forth above, the applicants respectfully submits that claims 1-5 and 9, now pending in this application, are in condition for allowance over the cited

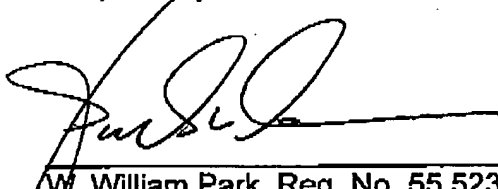
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references. This amendment is considered to be responsive to all points raised in the office action. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and earnestly solicits an indication of allowable subject matter.

When issuance of a Notice of Allowance is proper in the next action, the examiner is authorized to cancel the withdrawn claims, for which the applicant reserves the right to file a divisional application. Should the Examiner have any remaining questions or concerns, the Examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,



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